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Volume 1 NOVEMBER 1911 Number 4

BULLETIN

OF THE

MISSISSIPPI INDUSTRIAL INSTITUTE AND COLLEGE

THE COMMON SCHOOL

DOMESTIC SCIENCE

PUBLISHED QUARTERLY

Entered as Second Class Matter, March 22, 1909, at the Postoffice at Columbus, Mississippi, under the Act of July 16, 1894.

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The Need of a New Conception of a Common School for the South.

H. L. Whitfield, President of the Mississippi I. I. and C.

For nearly half a century the South has had free schools. The first generation to go through these schools has largely done its work; that in active service today is the product of these public schools. We may now study the work of this system by its results, to see if the billion dollars the South has devoted to this cause has been wisely expended; if the best possible results have been obtained for the great amount of time and human effort that have been dedicated to this great undertaking; in fine, to see if from turret to foundation, the institution is as it should be.

The writer realizes that the natural conservatism of human nature opposes even the suggestion of the possibility that any time-honored institution's work is not all it should be. But, my friends, the stake is too large for us to let sentiment dominate us. If we are wise, we will look the situation squarely in the face; not for the purpose of finding fault with those who have wrought before us, but to see in the light of modern achievement if our great common schools cannot be made a better instrument for bringing about improved conditions among our people.

To do this is no reflection upon the motives or work of those who have gone before us. The progress of civilization depends upon the succeeding generations analyzing the work of the former generation, retaining that which by experience has proved good, and rejecting that on which time has failed to put the stamp of its approval.

So let us, as devoted and loyal sons of the South, without fear take up this great problem for the purpose that during the time of our stewardship we may contribute something to the prosperity, honor, and glory of the section we love so well. Any statement of the purpose of education both defines the term and determines the process.

As to the general purpose of public education, there has never been any serious difference of opinion among recognized educational thinkers.

Maintained at public expense, public schools must rest the reason for their being in the contribution they make to the public good.

In the light of its very reason for existence there can be but one logical definition for public education. It is the appointed agency through which organized society seeks to improve both itself and its conditions.

All improvement in society and its conditions must come through improvement in the efficiency of the individual and in his relations and adjustment to his environment, natural and institutional.

The fundamental condition of highest individual efficiency is perfect physical health and development.

Adjustment to natural environment conditions in a knowledge of the laws of nature, and in power and skill in employing the forces and utilizing the material supplies of the natural world.

Adjustment to institutional environment, in general, conditions in adjustment to the two great fundamental institutions, the home and the State.

Here we have the clearly defined channels through which whatever public education contributes to public good must manifest itself.

I lay it down as a fundamental and indisputable proposition that, the measure of the efficiency and worth of any form of public education is the extent to which it is able to bring about for each succeeding generation a better form of physical life, home life, industrial life and civic life; and to establish more favorable conditions for the next generation.

The purpose of public education having been defined and the specific forms in which its beneficial results must present themselves having been determined, the question suggests itself: Are the public schools making good? Are they giving us the returns we have a right to demand? Is our investment in that direction yielding the dividends we have a right to expect? Are the children of the South getting such a preparation for living as will compensate for the time, money, and effort expended through this channel? Are they in those years that determine their characters and destinies receiving those impulses and that training and guidance which will mean for them the realization of their fullest possibilities?

The results of one-half a century of public education are written in the social, civil, and individual life of today. To answer the preceding questions beyond cavil, we have but to read from the records as spread before us in the open book of present life-conditions.

Let us briefly glance at a page or two. What about our present life? Is it at all points, is it at any point, as it ought to be, and as it might have been? These are grave questions. They touch our pride and test our intellectual honesty, but the time has come when we should be perfectly frank with each other and with the situation. The American people are rapidly approaching a crisis. This is no time for self-praise and compliments.

Taking the items in turn, let us give them a brief examination. How about pubic health? This is the fundamental question since all others rest more or less upon it. The character and destiny of any people are in a large measure shaped and determined by their health and physical strength. Happiness and economic efficiency cannot be vouchsafed to any people who disregard or pay scant attention to their physical welfare.

Are we enjoying the physical health, individually and collectively, that should be our portion? Preventable diseases still flourish and each year number their victims by the thousands. Typhoid fever, diphtheria, scarlet fever, hookworm, and that most dreaded of all scourges, consumption, are all preventable; and yet some of them can be found at all times in every community. Are we then making the progress that we should make in driving them out? I am answered that it is due to popular ignorance that these diseases continue year by year to take their mighty toll of human life and impose their awful tribute of human sorrow. But at what door can the responsibility for this continued ignorance be laid, but at that of the public school? I am well aware of the noble efforts of health boards, medical associations, and philanthropic individuals, to disseminate the necessary health knowledge, and that it has not been without its results, necessarily limited, however, on account of lack of resources and organization and of having to deal largely with adults.

Are our boys and girls getting in the public schools that physical instruction and training that mean well developed bodies and robust health? A glance at the records of those colleges where physical examinations and measurements are required, answers the question. These records stand as unimpeachable witnesses of the absolute neglect of this most important phase of education in our common schools.

Do our people need instruction in the primary laws of health and sanitation? Let one stupendous and shameful fact answer the question: There is expended in this country every year for worthless patent medicines more than three times as much money as is expended for public education. At what door should the responsibility for this not only useless but hurtful drain upon the people be laid, except at that of the public schools—the only agency that can reach and remove the cause!

How goes it with our civic life? And what are the schools doing towards making good citizens? Practically all American-born citizens have entered citizenship through the door of the public school. The citizenship of America today is ninety-nine hundredths the handiwork of public education. Is it what it ought to be? If not, where lies the responsibility?

Do the highest civic ideals prevail everywhere? Do they prevail anywhere? Are our civic problems solved in a scientific way? Are our public officers actuated by the highest motives both in seeking the office and in the performance of its duties? Do our candidates for the various offices, as a rule, make appeals to the reason and civic righteousness of the voters, or to their prejudice? Do our people exercise the right of suffrage in such a manner as to show that they have been trained to regard it as a sacred responsibility? Is it not a fact that organized selfishness is too easily getting a foothold in all sections of our country? Is it not true at the present time that a large section of the South is being greatly inconvenienced by an unnecessary contest between labor and capital?

These questions will be answered as the local situation appears to the hearer; but all will agree with me in the contention that our civic conditions could be greatly improved through the well-directed efforts of our public schools, and that it is therefore the duty of these schools to take up the work.

Is our home life all that could be desired? And if not, where is the fault? Are they equipped with those labor-saving conveniences that reduce drudgery to a minimum, and thus emancipate the house-wife from a large part of that ceaseless grind which has so long been the characteristic of much of the housework, especially on the farm? Are the sanitary laws properly observed in the home? Have not only the homes been made comfortable, convenient, and healthful, but have we had a proper regard for the development of the esthetic natures of the children in them? Yet it is the product of our public schools that have built and now maintain these homes. Where, then, must the responsibility for the neglect of all these things be laid?

How about our industrial life? Have we a varied industry? Do we work up our own raw materials, or are they consigned to other sections to perform the skilled labor and reap the larger profits? Have we a properly diversified agriculture? Do we use the most modern labor-saving machinery? Farm life in the South under imaginable and easily realizable conditions could be made happy, and prosperous, and rich, and full, and enjoyable almost beyond imagination. What have the public schools done for rural life except to dissatisfy and send away from it in disgust their very best heart, and brain, and brawn?

How does it stand with regard to morals? It takes a sturdy honesty to withstand the temptation to juggle with the record here. This is not a question of opinion. It is a question of fact; and both in our court records and daily press the story is writ so large that he who runs may read. Notwithstanding half a century of public education, vice was never so brazen and widespread, and crime so rampant as it is in America today. Take a single specification—the disregard for the sacredness of human life. There are in the United States per year more homicides per each hundred thousand of population than in any other nation in the world, civilized or uncivilized, so far as figures for the latter are obtainable. Nor can we hide behind the plea that this is due to influx of foreigners, for two reasons: First, the homicide-rate in the United States is higher than it is in any nation from which it draws its foreign population; and second, the rate is highest in this country in those sections where there is the smallest percentage of foreign element.

Let me throw out a suggestion here that you may follow out at your leisure. A great thinker has said, "Any system of education that creates wants without at the same time providing the means for their satisfaction, educates for discontent and crime." Now I submit, may it not be possible that public education, confining itself, as it has done, almost exclusively to the intellectual stimulation of the masses, and thereby vastly enlarging the circle of their felt wants, is through its failure to provide for the lawful gratification of these newly awakened desires, directly chargeable in part, at least, with this humiliating and constantly increasing criminal record?

And last, what is the spiritual outlook? It is the concensus of opinion of those who are giving a study to the question, as well as from the common observation of all who are working along the general lines of development of the people, that our churches are not having the influence that they should have. Many denominations report not only that churches are getting fewer, but that congregations are decreasing in size; it is especially noticeable in the falling off of men in attendance on church service. The natural soul-hunger for spiritual things is not being satisfied by a formal church service. The demand is that religion be a vital thing in the lives of the people. It is not creed nor dogma that the hearts of men yearn for, but a life of service—the doing of the word instead of hair-splitting theological refinements.

Now I have tried to be perfectly candid in my statements and in the presentation of existing conditions. I realize, however, that I will be charged with pessimism. I am not a pessimist. No man looks out upon human life and destiny with a larger hope than I do. I have an abiding faith in the power and providence of an Over-ruling Intelligence and Love that is working out through all things the completion of a divine plan. I believe in the mightiness of right, and in the final triumph of all good. On the other hand, however, I am just as firmly convinced that we ourselves are the agents through which God works towards the consummation of His will, and that the time of this consummation is largely determined by us. We cannot of ourselves bring it about or prevent it, but we can hasten or hinder it.

I know things are getting better in many definite ways; but I resent the fact that most of the influences which are at work for better living have emanated from other than educational sources. To us, because of the very nature of the work to which we have dedicated ourselves, belongs the task of leadership in the bringing about of all these better things.

We come now to a vital and practical question. Why have our public schools, so long and so carefully nurtured, so fondly and blindly trusted in, and maintained at so tremendous an expenditure of money, been so barren of desirable results? Why is it that today it is impossible to lay our finger upon any great contribution to the general good, and truthfully claim it as the gift of public education?

To my mind there can be but one answer. The school has been too busy in doing the sacred work of handing abstract knowledge down along the line of the changing generations, to give time and effort to supplying the demands for these real and larger human needs. Under the thraldom of tradition, and dominated by the ancient dogma of formal discipline, public education has been based upon the idea that the mastery of a time-honored school curriculum was its chief concern; that until this sacred duty was met, schools had no time for the vital concerns of real life; nor was there any need for looking out for these, for in some mysterious way the mastery of this curriculum was in itself a complete provision for life and living.

The tenacity with which we have clung to this dogma of formal discipline has been the cause of more material loss, blighted opportunity, and spiritual death, than have all the other stumbling blocks to be found in the path of human progress. It is the one parent ill of all our troubles. A fundamental principle of our educational philosophy, it has given form, direction, and purpose to all our educational effort. Making us a race of self-sufficient Pharisees looking out for our own honor and glory, it has given us a total misconception of the real purpose of life, and the real meaning of living.

This theory of education, placing it among the abstract rather than among the natural sciences, long prevented a careful study of the ends of education, its processes, and its subject-matter. It has caused us to go on from generation to generation in a beaten path, deluded by the idea that, through the exercise of the intellect in certain prescribed lines of thought, we would acquire an elusive thing called culture, which was in itself, if not the highest good, a sure and sufficient means thereto.

The result has been lamentable failure all along the line. Let me emphasize this point by a bit of personal experience and observation. During my long tenure as Superintendent of Schools of my State, I often visited communities where public schools had been maintained annually for more than forty years; more often than otherwise, I found that the buildings in which the educational processes had been carried on during all these years were unsanitary, and ugly; that the yards and general surroundings were not kept with any regard to health or to beauty. I failed to see in the homes of the people that improvement which, it seems to me, one would expect to find in homes for so long a time situated so near schools. To me, it seemed as if the school had had a blighting effect on the industry of the community; the lands year by year were becoming poorer; the tools were the simplest, and the farm processes the most primitive. I found it unfortunately true that the boys of initiative, those especially needed for leadership in their respective communities, left for the towns as soon as they could procure positions.

I came to the conclusion that social standards and civic ideals and general social conduct did not show the improvement that ought to be necessary results of so many years of the influence of public schools. The same general conditions prevailed in the country churches. After several years of experience in the study of our common schools at first hand, I decided that there was something radically wrong with their work. I had always been told that schooling was a preparation for living; I failed to see how these schools had made for the better life of the neighborhoods in which they were located.

I wish to be fair; I know that most of these schools were in session for short terms and were generally taught by most ineffectual teachers. While this is true, one thing was very noticeable, and that was, that these schools had the same spirit, ideals, and procedure as did the better ones. There was a difference in power, but not in purpose; in degree, but not in kind. As a result of these investigations I came to the conclusion that the very conception of the function of the public schools was wrong. Their ideals did not comprehend definitely great life-ends. Almost without exception their purpose seemed to be to have all the children attempt to master a traditional curriculum without reference to whether the subject-matter of this curriculum had any specific bearing upon their present or future lives. It seemed to be assured that if this time-honored course of study was mastered, in some mysterious, unexplainable way the various and diverse aptitudes of the children would assert themselves, and, as a final result of the process, each would somehow find himself in perfect adjustment to his own peculiar life. Instead of the course of study being arranged with reference to the needs of the child, the attempt has been all along to make the child fit the course of study; with the result that the large majority, unable to conform, gave up in disgust long before the completion of the ordeal. It is but voicing common observation to say it is a question as to whether those who remained to complete the course were better prepared to meet the demands of real life than were those who gave up and quit.

What is to be done? We have tried adding practical subjects to the time-honored studies, with the result, and the only result, that an impossible tax has been placed upon the physical and mental ability of the pupils, and that whatever semblance of coherency there was in the course of study has been destroyed. What we so much need is not merely the addition of social and industrial branches to the curriculum, but a radical reorganization of the whole school curriculum with reference to the future home, social, industrial, and civic life of the pupils.

For example, I would not have the children learn less arithmetic; but if the teaching of arithmetic were correlated with other work in the school, and more especially with the actual life of the community, who can doubt that in less time a far greater usable knowledge of the subject would be gained, than when pursued as an isolated subject related to nothing on earth, in the heavens above, or in the waters beneath? The same applies, and with equal force to all the other branches of the traditional curriculum. The formal studies must not be all in themselves. They must be vitalized by being placed in a dynamic relationship to the great needs for which schools exist. A school-subject has value in so far as it acts as a positive force in connection with other school forces to prepare and equip the pupil to meet the demands of life in some phase or in all its phases.

In setting an end for public education, let us come down from the misty heights of abstract generalizations to the level of the real and practical. We must aim at definite and concrete results.

Human institutions as well as social, civil, and industrial conditions, are always just what the people make them. In the people lie both the force that operates here, and the power that employs and directs it. This statement cannot be made too emphatic. It is both fundamental and universal. The people are the producing cause of both the form and the content of their civilization and of the resulting conditions. These are but specific forms in which the people express themselves. In this complex product the people are the only variable factor; all the rest are constant. To change the product, then, we must direct effort upon the variable. Man is the strategic point. All time, effort, and resources employed in an attempt to develop institutions and conditions beyond the level of the social average, are worse than lost. From time undated, it has been the dream of man, it seems, to discover some short cuts on the Almighty. Instead of applying our minds to the finding out of God's way, and then with patience and industry traveling His blazed path to the realization of our desires and needs, we have always endeavored by some kind of legerdemain to accomplish these results in some shorter and easier way. Just as the alchemist of old would by some magic touch turn baser metals into gold, so does man of today, by legislation and other artificial means, hope to bring about a transformation of all the phases of our life as a people.

In the public school we have the means of reaching the people, the producing cause of all life conditions, the only variable factor in the product, civilization. It is through the public schools, then, that we must work. The work of the public school, then, must be to condition the people in these various directions, so that, as water seeks its level, or as effect follows cause, the desired result will follow.

This is not new doctrine. When Philip of Macedon placed his son Alexander under the instruction of Aristotle, the aged philosopher asked the father what he most desired taught to his boy. "I want him," said the king, "taught that in his youth which in his manhood he will most need to know." We are but insisting upon Philip's demand when we declare that we should put into the public schools what the future men and women will need to know, as a means of doing what they should do and of being what they should be. Our present and future needs must therefore determine the scope and purpose of public education.

One of the most conspicuous causes of the failure of our people to receive a considerable culture, is that the home and the school do not require that the educational careers of the children be started on the necessary concrete basis; it is a lamentable fact that our children have not been brought into intelligent contact with their immediate surroundings; they have never been caused to explore fully the miniature world, the boundaries of which mark the limits of their opportunity for contact with things and the causes and relations which are inseparably connected with their concrete surroundings.

Any person's grasp of the concrete world, which is acquired in early life, is a necessary limitation upon that person's entire educational career and his possibility for culture. This is the only basis upon which a life rich in knowledge, culture, and service can be built; yet our children, at the time when nature is inviting and urging them to linger in this rich field to garner a full storehouse of the necessary raw materials for a complete life, are ruthlessly forced to sacrifice these natural cravings of childhood, and give themselves up completely to an effort to master meaningless signs and symbols,—meaningless because detached from the things they represent, and, as a result, to flounder about in an uncertain sea during all their school days, and to be entangled in a maze of doubt and uncertainty during all their after lives. God has put no barriers between the material and the cultural; these distinctions are man-made; the concrete is the necessary basis on which the good, the true, and the beautiful must be builded.

Such a condition does not exist without a cause, and I am sure the reason is the teachers have never made themselves the possessors of this most essential elementary knowledge. When they went to school they did not get this training and they have found it hard to get away from their past selves. We all see what ought to be done, but find it hard to do the work.

It is to be very much regretted that the best prepared teachers of the South have not studied and put into teachable shape this necessary educational matter; our topography, animal-life, plant-life, traditions, local history, civic life, industrial life, and all other characteristics of the South are unexplored fields. What a rich and inviting opportunity! How such organized material is needed in the homes and in the schools! This work should not be longer neglected; the children are entitled to know the full alphabet with which they must spell out their destinies, and it is the duty of our schools to bring them into their rightful heritage.

This does not mean that the text-books are to be excluded from the schools; but it does require that instead of their being studied without regard to each other and without regard to the way in which they contribute to great life-purposes, that they shall be properly correlated with each other, and that all subjects together shall constitute an organic unity for the accomplishment of definite ends; and that they be considered not merely as isolated, unrelated subject-matter. A careful study of our common school curriculum with this end in view will clearly show us that much of its subject-matter is obsolete and worthless, and that the placing of the part needed in its proper relation in the chain of causation, will give it a new meaning and invest it with a new interest for the child, with the result that it will be better learned, and that, too, with less drudgery. It would give us the opportunity to weave in much new matter that is vital and necessary to the accomplishment of the great ends we have in view.

Another thing, let me say to the advocates of the old order, that the intelligent study of the question of physical well-being, home-making, civic duties, and industry, is but the necessary basis for the ability to acquire abstract knowledge and to reason abstractly. Our appreciation of literature and the fine arts must have a concrete basis. We are able to interpret these things in proportion as we have a mastery of the concrete elements to which every form of art is referable. Truth art is but a beautiful expression of life. When we know concrete life well, we then have the power of appreciation of the finer meaning of life as they are written in the language of the arts.

I plead not merely for the theoretical learning of the organized subject-matter that belongs to these various ends; this is essential, but not all. I plead not for a generation of people who can only talk about these essentials of a great civilization, but for men and women who have been both taught and practiced in these great fundamentals until they are living embodiments of these eternal verities of life. I would account nothing learned until the student by practice had been transformed by, and conformed to, these great truths—both the Science and the Art. Let our schools be great lecture-rooms where the fundamental principles of life are scientifically learned, and at the same time be laboratories for the practice of these principles until they become automatic habits in the lives of the men and women of the next generation. To know, to do, to be, constitute the logical steps in the realization of a well-ordered life.

We must turn our eyes from the little ones under our guidance to the future. We must see these little boys and girls the objects of our solicitude, the men and women of the next generation performing all the functions of life as we believe these functions, measured by the standard of a Christian civilization, should be performed. They must be complete men and women. What would we have them be?

First, I would say they should be strong physically. Through the training in the proper knowledge of physical development, they should have strong bodies, free from all physical pains, and capable of enduring the strain of the strenuous times in which they live; a generation of men and women who have so consistently and uniformly lived in obedience to the laws of physical well-being that these principles have become so incarnated in their very beings that, without effort, they live well physically. They should be in full co-operation with their fellows in all matters relating to general health and sanitation; the preventable diseases which for so long have meant physical weakness, industrial inefficiency, and premature deaths should be practically driven from the land.

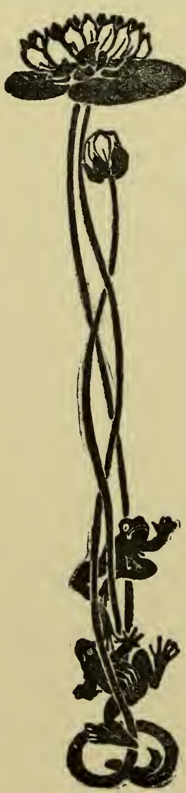
The homes should show the effects of the scientific inquiry which has been given it by men of thought, those especially trained to formulate the many and complex processes of work and living for the home. These boys and girls, when they are grown, must have comfortable, convenient, healthful and beautiful homes; they must have the best labor-saving devices and must be skilled in their uses; they must have an appreciation of art and books as necessary factors in the making of a real home; in the various relations of members of the family, they must daily exemplify the best that has been evolved by the ages for family-life. In fine, the home to be built by these boys and girls, the men and women of a great tomorrow, must be so organized and conducted that their examples and teachings will lay the foundations and give the impetus to the making of the greatest civilization that the world has ever known.

Again this vision must include a picture of the little boys and girls performing the various functions of citizenship in the best organization of society the world has ever seen. They must not be in a continual scramble for the positions of honor and emolument, but they must by force of habit respond honestly and intelligently to every civic demand. They must not despise the every-day functions of citizenship; they must be good voters, honest and intelligent jurors, contributors to the making of the right kind of political opinion, and when they enter the public service they must regard their functions as sacred trusts; and must know that it is not the holding of the position but the manner of the discharge of the duties of the office that gives honor.

These little boys and girls, when grown, must take this Southland of ours, depleted by wasteful and unscientific methods, and transform its industrial life. Their very lives must be living refutations of the charge that highly skilled, or artistic work cannot be done in the South. It is for them to show that God has committed as much of original power to them as He has to those of any part of the habitable globe; that they hold it as their high duty to have part and parcel in the great achievements of the race; that they sin against heredity, opportunity, and the end of their existence when they fail to do their full work.

They must rescue the churches from the Pharisees. It is for them to teach that religion means right living and service, and not the reciting of creeds and the performing of ceremonies. They must be doers of the word and not hearers only. They must show the world that religion should be a vital thing in the lives of the people, not one, but seven days in the week. Through them, all men must be brought to know and serve God.

My fellow teachers, this work is our work; to accomplish it requires industry, zeal, patience and faith. The keeping and making of the South is in our hands. We have voluntarily assumed this trust; we cannot escape the responsibility if we would; and only cowards would shift it if they could. Never has a more sacred duty been committed to human hearts and human hands than that which is given to us of taking the South, with her history and traditions, her failures and achievements, her blood and possibilities, and making her what she should and can be. As to what the future in the South shall be, will depend upon the response the teachers make to this great duty and opportunity.



Equipment for Teaching Home Science.

Less than three years ago when a similar article was written for the Mississippi School Journal there was not a single Home Science Department in any public school in Mississippi.. Today there are probably ten or twelve such departments, some in the city High Schools as in Hattiesburg and McComb City where the up-to-date Superintendents have placed well equipped cooking laboratories, and in any number of Agricultural High Schools where a most interesting phase of the work is being carried out. On account of this great interest manifested in the subject, a discussion of equipment will probably be opportune, but before going into this discussion let us consider the meaning of our title, "Home Science." Just what do we mean by such a subject. Is it cooking and sewing only? Such is the popular conception, although we are trying to give it a broader meaning here at the I. I. & C. Since Science means systematic knowledge, Home Science should mean systematic knowledge of the home and embraces all subjects which may increase this knowledge. As a basis for a good course in Home Science a foundation of exact Science should be laid, and so Chemistry, Physics, Bacteriology and Physiology are required of all students who wish to specialize in Home Scince. The subjects applying such knowledge are then taught and comprise Food Preparation and Special Diets; Home Sick Nursing; Sewing; Furnishing and Care of the House; Art with special reference to color and design of house furnishings. Such a course will not be available in the average public school but the subjects which may be taught under the name of Home Science are Sewing, Cooking, Applied Arts, Personal and Civic Hygiene, and perhaps School Gardening. Some of these subjects may be taught in the ordinary class room, but it is not possible to give the cooking lessons without a special room for the purpose.

How many of these subjects may be taught depends upon the funds available for special teachers and equipment, and also, we might incidentally say, upon the views of the Superintendent as to their educational value. All Special subjects call for extra equipment and in some cases the demand for equip- o entitle them to consideration. ment seems too great t This seems to be the trouble in putting in a cooking laboratory, but if the plans are not foolish a very useful room may be equipped for a comparatively small sum. The one requirement is that the equipment shall be tasteful, neat, and clean with furniture and untensils capable of being used conveniently without loss of time.

ROOMS NEEDED FOR TEACHING HOME SCIENCE.

The rooms set aside for the special subjects of cooking and sewing will vary according to location of the school. If in a country school or agricultural High School, a small separate house for the Home Science work is very convenient. Such a house may contain a cooking laboratory, dining room, sewing room, pantries and small bed room. The average school could never afford so much and in such a case the cooking laboratory may be built and the same room used for a dining room and sewing room. While a small bed room is very useful in the lessons on house cleaning and furnishing and in special lessons on nursing, it may be omitted and all the work done in the two roms. The size of the cooking laboratory in such a house will depend upon space and money. A very convenient size would be a room eighteen by twenty-six feet, larger if possible. The combination dining room and sewing room may be fourteen by sixteen feet, larger if possible. The advantages of such a separate house are manifold and the students feel a sense of personal ownership which they may not feel in rooms set apart in the larger building. A great deal may be done for the outside appearance of the house; garden and flower beds may be planted, in this way giving a most excellent example for improving the homes of the community.

SEWING EQUIPMENT.

Unfortunately the room for special subjects must often be set aside in part of the reguar school building. In considering such rooms we find that the first subject usually taught is sewing because it calls for very much less equipment than cooking. For this work an ordinary class room may be used, and the pupils may sew sitting at their desks. This will of course be hand sewing given merely as a form of manual activity for grade pupils. For regular garment making a separate room is an absolute necessity. The size of such a room will depend upon available space and number of pupils. A room eighteen by twenty-four feet or larger will be the best size. The first requirement is plenty of light and this should be obtained from a row of windows on one side if possible. Northern light is generally considered the best for sewing and laboratory work. The furniture required will be two large cutting tables, chairs, machines and lockers. The tables may be bought for the purpose, or the cheapest of pine tables may be used. The chairs should be bought with reference to the size of the persons occupying them so that the feet may rest squarely on the floor. Each sewing room will need at least four good sewing machines if other than hand sewing is attempted. Lockers built up against the side of the room or in the hall will be found almost a necessity where pupils come from a distance. Each student should be provided with a locker where both sewing and cooking equipment may be kept. The room should have a blackboard and several small articles such as good shears for cutting, weights, etc. Each pupil will furnish her own individual equipment of scissors, needles and material for sewing.

COOKING LABORATORY SOULD BE ATTRACTIVE.

The cooking laboratory needs careful attention because of the number of fittings which it contains and the danger of making this equipment more expensive than the school can afford. The first point to consider is that the subject shall be well housed in order to demand the proper respect. For this reason we must have a definite ideal of beauty in equipping our practice kitchen. If there be any old fogy who has a notion of the kitchen as a place of soot and grease, make doubly sure that he sees your kitchen as a spotless laboratory with every appointment corret. This does not mean necessarily that our equipment shall be expensive. In a number of the Colleges and High Schools the money put into special equipment seems foolishly spent. We do not, for instance, see either the beauty or practicality of solid mahogany wood-work in the cooking laboratory such as we find in a certain city High School. On the other hand, no more foolish argument can be heard than this one so ofter stated, "Give the children nothing better to work with than they have at home. Then they will know just how to do it at home and there will be no break between the home and the school." It is true that we want to teach the children how best to use their home materials, but we have no reason whatever for assuming that they cannot better such home conditions if the right ideal is only held up before them. The majority of home kitchens are poorly equipped not through poverty but ignorance. The child who is taught better methods and labor saving devices will make an immediate demand for such things which are probably in the power of the home to supply. The amount spent on equipment for teaching cooking will vary then with the situation of the school whether town or country, and the particular financial condition of the school where it is taught.

PLANNING THE PRACTICE KITCHEN.

A workable equipment may be obtained for one hundred dollars although a good equipment will cost about two hundred and fifty or three hundred; and a first class equipment about five hundred dollars. The size of the cooking room in the special house has already been discussed. In an ordinary school building this room should be situated on the top floor so that it may be ventilated without odors of food permeating the entire building. For this same reason the room should have windows on two sides if possible so that the air may sweep through. If this is not possible then a transom should be placed over the door. The kitchen laboratory should have direct sunlight at some time during the day and should contain at least four windows. In a school where most of the work is done in the afternoon a northeastern exposure will be found most convenient. The windows should be easily lowered from the top to insured good ventilation. If the windows are not too numerous fresh swiss curtains add much to the attractiveness of the room although not always possible in a large room with many windows. Although the size of the room was touched upon it may be well to discuss it at length. So much depends upon the available space and number of pupils. The average town High School will number twenty or twenty-four in a class. For such a class a room twenty by thirty feet or even larger will be most convenient. If no room is available as a dining room, plan a large room for the kitchen screening off the end where a table may be placed and serving lessons given.

FLOOR.

The floor will probably be of pine. The best treatment of such a floor is a mixture of three parts boiled linseed oil to one part turpentine. Heat the oil, remove from the fire; add the turpentine; put on the floor while hot, and wipe off surplus oil with a cloth. Renew every few months. The oil preparation will gradually darken the floor but if a darker color is wanted at first add a small amount of stain to the oil. Good linoleum is a better but much more expensive floor covering.

WALL FINISH.

The ideal of a beautiful as well as useful cooking laboratory should always be kept in mind. With such an object in view select a definite color scheme for your room before planning walls or lockers. The material used for the walls may be cheap or very expensive. The cheapest wall will be ceiled and painted. In such a case try to have the lower wall up to the height of six or eight feet enameled so that it may be easily cleaned. The wall material should always be hard and washable. For this reason the sand finished plaster is objectionable and should never be used as the rough surface collects dirt and odors. The brown, hard finished plaster comes next in point of cost and may be left in the natural color or tinted to carry out the color scheme of the room. The ideal wall is entirely of tile or with a border of tile up to a height of six or eight feet and above, covered with sanitol or some washable material. Such a wall will last for years besides being beautiful and perfectly sanitary. Owing to the expense of tile the hard finish plaster is probably our choice either left in natural color, tinted or painted with oil paint. In selecting wall color remember that soft neutral shades of light colors and will be most harmonious and pleasing. For instance, a northeastern room may be well worked in cream and tan with brown woodwork and lockers. For a sunny room very neutral gray-green or steel gray will be cool and clean looking. The color harmony should be carried out in furniture, curtains and utensils and will cost no more than an ill assortment of various colors.

COOKING TABLES OR LOCKERS.

The next important question will be the cooking tables or locker.. For these lockers we find a very large variety of material ranging from the cheapest of pine lockers made at home, to to the expensive cabinets of oak or ash. The kind of lockers and stove largely determine the usefulness of the laboratory and if possible they should be well constructed and of good material. The arrangenent may be in a number of forms, either oblong, rectangular or a perfect square if in a square room. The number of places equipped will depend upon the needs of the school, the average public school being equipped for twenty or twenty-four pupils. Classes are smaller in the Agricultural High School and these may be equipped for sixteen, a very convenient sized class. Regular cooking lockers may be bought from firms furnishing chemistry desks and are complete in every detail including a hinged seat, gas connections and alberine or some other good top. Such lockers cost about one hundred and fifty dollars for a table containing places for twenty or twenty-four students. The cost seems rather high at first but when we consider all the extra furnishings, such as stools and table-stoves added to the home-made lockers, the cost is much the same. For cuts and prices on such lockers write to Sheldon & Co., 320 No. May St., Chicago.

HOME-MADE LOCKERS.

If funds are not on hand for such an outlay the local carpenter or cabinet maker may build the lockers for you. Material, height of lockers and number of places will be the first point to consider. White pine is the best material to use for the framework with a top of oak closely fitted together to prevent cracks and warping. Such lockers may be constructed for about one hundred dollars by a good cabinet maker. If a local carpenter makes them free from your own plans and materials they may be constructed for about fifty or sixty dolars. No adequate information can be given in regard to construction where a cut cannot be shown. The height varies with the age of the pupil. The average height for the public school lockers being thirty-four inches. With grown girls a thirty-five inch height will be better as it prevents stooping over the work. The tables may be equipped for as many as desired allowing about twenty-eight inches for each pupil as working space. The construction generally consists of a drawer, and a shelf below for larger vessels although this shelf may be omitted and the vessels suspended from hooks under the drawer. Such lockers may be built in the form of a hollow square or rectangle. In a very long narrow room two straight rows will fit the space to a greater advantage. When arranged in the form of a square, two openings should be furnished and in the center the supply table or sink may be placed. The material for covering the top of the lockers is our greatest problem since it must be water-proof; it must not show stain and at the same time must look well. The most successful cover used by the writer is one of closely fitted oak, treated with dye, oil and wax. This top answers all the purposes of a more expensive cover and is very attractive in appearance. If white pine must be used instead of oak treat it with stain, oil and wax to prevent discoloration and absorption of water. The ideal locker top is vitrified tile or a substance known as alberine, because such preparations wash well, are proof against heat and wear for years.

STOVES NEEDED.

The size and number of stoves is our next consideration. Where a gas supply is available it should always be used on acount of the greater convenience. The lockers are equipped with small table-stoves for each place, such stoves casting thirty-five cents or as high as a dollar for one one-burner hot plate. The stoves should be connected up by gas piping as the rubber tubes will be found very undesirable. In the country where a gas supply is not available the lockers may be equipped with small kerosene stoves using one for two students. These stoves cost about two dollars and fifty cents. If the individual stoves are not considered advisable then a small class may do group cooking on a range. Even when gas is used at the lockers a coal or wood range will be needed. This is used in baking lessons and it is very essential so that the pupils may learn to regulate the range at home. A very good range may be purchased for twenty-five dollars and on up to fifty. Where a range canot be obtained small bakers costing two dollars each may used to fit over the individual gas burners or small kerosene stoves with bakers attached may be used.

LOCKER EQUIPMENT.

In considering the locker equipment we find that this may be just as cheap or as fine as the school wishes to furnish. A practical equipment for a class of ten pupils has been worked out for nineteen dollars. For such an equipment the articles were all bought at the ten cents store with the exception of the ganiteware which must be first quality or it is not worth buying. Below is given a list of the locker equipment in laboratory No. 2 at the I. I. & C.

Laboratory equipped for sixteen:

Drawer Contains	Two measuring cups
	Two bowls
	One cup, one saucer
	One pan
	One strainer
	One egg-beater
	One table spoon
	One teaspoon
	One caseknife
	One fork
	One paring knife
	One wooden spoon
Shelf Contains	One dish pan
	or
	One rinsing pan
	Two sauce pans
	One skillet
	One soap dish in alternate shelves
	One mop

The cost for drawer equipment for sixteen is seventeen dollars and sixty cents. Cost of shelf equipment for sixteen is twenty-five dollars and twenty cents, making a total cost of forty-two dollars and eighty cents, and the cost for a locker is two dollars and sixty-five cents. Besides the locker equipment the room will need in the way of furnishings a desk, chair for the instructor; stools or chairs for the pupils; a supply table and built-in cupboards or safe for supplies. The supply table may be constructed at the same time and of the same material as the lockers, or a common pine kitchen table is convenient. This may be covered with white oil cloth or oiled to match the locker tops. The supply closet is better if built into the wall during the construction of the room. This should have glass doors for the top and wooden doors for the under-shelves. The height may be five or six feet with shelves about a foot a part. If possible a closet should be built for the kitchen as a built in cupboard will scarcely hold all needed supplies and extra utensils. This closet should be at least six by eight feet and should contain a window with sunlight if possible. The extra utensils needed in the room will probably be supplied as the work advances but a short list of needed articles is given:

Utensils for Cupboard

One meat chopper
One sugar bin
One flour bin
One meal bin
Two large sauce pans
One grater
One butcher knife
One large cake pan
One can opener
One cork screw
One garbage can
Two oven pans
One coffee pot
One tea pot
One double boiler

Total cost $8.00.

A great many more utensils will probably be needed but this list represents the absolute necessities.

DINING ROOM.

No cooking laboratory is complete without a dining room in some place for serving practice meals. For this reason a table may be placed in one end of the kitchen if no dining room is available. The essential dishes for serving a plain meal and some kind of cheap table cutlery must be furnished, also table cloth and napkins. Where a finer equipment is possible the needed plated silver and a very good grade of dishes may be purchased for fifty or sixty dolars. This price may of course be largely increased by using a better grade of silver and a complete assortment of china.

BOOK ON EQUIPMENT.

The brief discussion given above is of course wholly inadequate if the person interested has never seen a cooking laboratory. Unfortunately cuts of lockers cannot be supplied and it is very hard to describe the method of construction. A very excellent book on this subject has recently been published, "Equipment for Teaching Domestic Science," by Helen Kinne—address, publishers—Whitiomb & Barrows, Huntington Chambers, Boston, Mass. Any questions relating to this subject will be gladly answered by the Home Science Department of the I. I. & C.

Remember in equipping a new cooking laboratory, whether on a very cheap or very elaborate scale, to let the pupils take an active part in all plans and even constructive work. This has been done in the laboratories here at the I. I. & C., where the girls have oiled the floors, painted the lockers and tops, and made frames and screens for the windows. Such a method cannot fail to cause the pupil to feel a personal interest in her work besides making her more capable in her own home.

MABEL WARD,
Director of Home Science. I. I. & C.

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